AMENDMENTS

IN THE SPECIFICATION

Please replace the paragraph on page 24, lines 6-10 with the following:

In one particularly preferred embodiment, high density oligonucleotide probe arrays are synthesized in a 5'->3' fashion by using four 3' MeNPOC-nucleoside-5'-phosphoramidites and photolithographic combinatorial synthesis methods disclosed in, e.g., U.S. Patent Nos. 5,753,788, 5,744,101, and ~~U.S. Patent Application Serial Number 09/490,580~~ 6,310,189, all incorporated herein by reference for all purposes.

Please replace the paragraph on page 27, lines 10-14 with the following:

Because reverse transcriptases polymerize in 5'-3' direction, in some embodiments, the oligonucleotides must be immobilized on a substrate in 5'-3' direction. U.S. Patent ~~Application Serial~~ Number ~~09/490,580~~ 6,310,189, which is incorporated herein by reference for all purposes, disclosed methods for synthesizing oligonucleotide probes on a substrate in 5'-3' direction.

Please replace the paragraph starting on page 33, line 17 and ending on page 34, line 4 with the following:

The confocal microscope may be automated with a computer-controlled stage to automatically scan the entire high density array. Similarly, the microscope may be equipped with a phototransducer (e.g., a photomultiplier, a solid state array, a CCD camera, etc.) attached to an automated data acquisition system to automatically record the fluorescence signal produced by hybridization to each oligonucleotide probe on the array.

Such automated systems are described at length in U.S. Patent Nos: 5,143,854, 5,631,734, and PCT Application 20 92/10092~~, and U.S. Application Ser. No. 08/195,889 filed on February 10, 1994~~. Use of laser illumination in conjunction with automated confocal microscopy for signal detection permits detection at a resolution of better than about 100 μm, more preferably better than about 50 μm, and even more preferably better than about 25 μm, and most preferably better than 2 μm.